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EXAMINER

DINH, MINH

ART UNIT

PAPER NUMBER

2132

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/837,412

Applicant(s)

HIRAI, JUN

Examiner

Minh Dinh

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) 35-46, 53-56, 59 and 61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34, 47-52, 57, 58 and 60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the amendment filed 09/26/2005. Claims 1, 7, 13, 24, 47, 50, 57-58 and 60 have been amended.
2. The drawings and the specification have been amended. As a result, the objections to the drawings and the specification are withdrawn
3. It is acknowledged that a certified copy of Japanese application P2001-092619 has been filed.

### ***Response to Arguments***

4. Applicant's arguments filed 09/26/2005 have been fully considered but they are not persuasive. Applicant argues that Shur does not disclose that the digital watermark is embedded into the content according to insertion information such that the digital watermark can be removed from the content by using the insertion information and the digital watermark. Shur discloses that the digital watermark is embedded into the content according to insertion information (e.g., seed, key, selected watermarking overhead) (fig. 1B; col. 8, line 50 – col. 10, line 40). Shur discloses that the digital watermark can be removed from the content by using the insertion information and the digital watermark (col. 10, line 53 – col. 11, line 15).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-5, 7-11, 13-14, 16-25 and 27-34, 47-52, 57-58 and 60 are rejected under 35 U.S.C. 102(e) as being anticipated by Shur (6,330,672).

Regarding claim 47, which is exemplary of claims 1, 7, 13, 24, 50, 57-58 and 60, Shur discloses an apparatus for embedding additional information into a content as a digital watermark and processing a watermarked content, comprising:

an embedding unit operable to embed the digital content, said embedding unit comprising: generator operable to generate the digital watermark (fig. 1B, elements 120 and 130); an embedding unit operable to embed the digital watermark into the content (fig. 1B, element 106); a first transmitter to transmit the content provided with the embedded digital watermark (col. 8, lines 40-45); a second transmitter operable to transmit the digital watermark or information for reconstructing the digital watermark (col. 3, lines 48-52; col. 11, lines 60-66); and

a removing unit operable to remove the digital watermark from the content, said removing unit comprising: a first acquiring unit operable to acquire the content provided with the embedded digital watermark (fig. 3, element 300); a second acquiring unit

operable to acquire the digital watermark or the information for reconstructing the digital watermark (fig. 3, element 305; col. 11, lines 60-66); and a removing device operable to remove the digital watermark from the content by using the acquired digital watermark or the acquired information for reconstructing the digital watermark (fig. 3, element 315);

whereby the digital watermark is embedded into the content according to insertion information such that the digital watermark can be removed from the content by using the insertion information and the digital watermark (fig. 1B; col. 8, line 50 – col. 10, line 40; col. 10, line 53 – col. 11, line 15).

Regarding claims 48-49 and 51-52, Shur further discloses that said removing unit further comprises a second embedding unit operable to embed a second digital watermark into the content from which the previous digital watermark has been removed from said removing device, and a distributing unit operable to distribute the content into which the second digital watermark has been embedded (col. 11, lines 12-15).

Regarding claims 2, 8, 14 and 25, Shur further discloses that the digital watermark comprises at least one of identification information and copyright information concerning the content (col. 4, lines 13-34).

Regarding claims 3 and 9, Shur further discloses that said generator comprises means for generating a key pattern used for indicating the additional information as the digital watermark (fig. 1B, element 121), and means for generating the digital watermark using the key pattern; and said second transmitter transmits the key pattern as the

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information for reconstructing said generator the digital watermark (fig. 1B, element 120; col. 11, lines 60-66).

Regarding claims 4 and 10, Shur further discloses that said generator comprises means for generating a key pattern used for indicating the additional information as the digital watermark (fig. 1B, element 121), means for performing a logical AND operation of the key pattern and a candidate watermarking sequence generated based on the complexity of the content which meets the limitation of means for modulating the key pattern according to the complexity of the content (col. 9, lines 4-62), and means for generating the digital watermark by using the modulated key pattern (fig. 1B, element 106). Shur discloses that the second transmitter transmits the key pattern as the information for reconstructing said digital watermark. Shur does not explicitly disclose that the transmitted key pattern is modulated; however, this feature is deemed to be inherent to the Shur method as col. 11, line 60 – col. 12, line 6 show that the digital watermark generated using the modulated key pattern can be reconstructed using the transmitted key pattern. The Shur method would be inoperative the key pattern was not modulated prior to transmission.

Regarding claims 5 and 11, Shur further discloses that the first and second transmitters multiplex the content provided with the embedded digital watermark with the information for reconstructing the digital watermark (col. 11, lines 60-64).

Regarding claims 16 and 27, Shur further discloses that the first and second acquiring units acquire multiplexed data consisting of the content provided with the embedded digital watermark and the information for reconstructing the digital watermark

(col. 11, lines 60-64) and said information processing apparatus further comprising a separation unit operable to separate the multiplexed data (fig. 3, element 305).

Regarding claims 17 and 28, Shur further discloses that the information for reconstructing the digital watermark is a key pattern (col. 3, lines 48-50; fig. 3) and means for subtracting the digital watermark from the content using the key pattern (col. 11, lines 12-16).

Claims 18 and 29 are rejected on the same basis as claim 48.

Regarding claims 19 and 30, Shur further discloses an authentication processor operable to perform predetermined authentication processing before said second acquiring unit acquires the information for reconstructing the digital watermark (col. 9, lines 1-4; col. 10, lines 27-52).

Regarding claims 20 and 31, Shur further discloses that the key pattern is encrypted and needs to be decrypted before it can be used to reconstruct the digital watermark (col. 9, lines 1-4; col. 10, lines 27-52).

Regarding claims 21 and 32, Shur further discloses the second acquiring unit acquires the key pattern based on content identification information unique to the content provided with the embedded digital watermark (col. 8, line 56 – col. 9, line 4).

Regarding claims 22 and 33, Shur further discloses that the information for reconstructing the digital watermark is information indicating a pattern selected for embedding the digital watermark (col. 3, lines 48-50).

Regarding claims 23 and 34, Shur discloses that, before being embedded into the content as the digital watermark, the additional information is encoded with the

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coefficient of a candidate watermarking sequence (col. 9, lines 37-51). The coefficient of the candidate watermarking sequence meets the limitation of a modulation amount based on characteristics of the content. Shur further discloses that the second acquiring unit receives information indicating a modulation amount based on characteristics of the content as the information for reconstructing the digital watermark (col. 11, lines 47-52). Shur does not explicitly disclose that the removing unit reconstructs the digital watermark by encoding the additional information according to the information indicating the modulation amount so as to remove the digital watermark from the content; however, this feature is an inverse process of the modulation process at the embedding device and is deemed to be inherent to the Shur method.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shur as applied to claims 1 and 7 above, and further in view of Saito (6,741,991) and Kubota et al (5,721,778). Shur discloses a multiplexed content including the watermarked content and the key for reconstructing the digital watermark (fig. 3, element 300). Shur also discloses that the key is encrypted (col. 10, lines 27-52). Shur



does not disclose an encryptor operable to encrypt the multiplexed content. Saito disclose encrypting a watermarked content (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Shur apparatus such that the watermarked content is encrypted, as taught by Saito, in order to prevent leakage of data content. Kubota discloses an encryptor operable to encrypt multiplexed content (fig. 6, element 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the Shur apparatus to include an encryptor operable to encrypt the multiplexed content, as taught by Kubota. The motivation for doing so would have been that only one encryptor is needed to encrypt multiple signals.

9. Claims 15 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shur as applied to claims 13 and 24 above, and further in view of Saito. Shur does not disclose that the watermarked content is encrypted and a decryption unit to decrypt the encrypted content. Saito discloses encrypting a watermarked content at the transmitting side and decrypting the encrypted content at the receiving side (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the Shur apparatus such that the watermarked content is encrypted before transmission and a decryption unit to decrypt the encrypted content, as taught by Saito. The motivation for doing so would have been to prevent leakage of data content.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dinh whose telephone number is 571-272-3802. The examiner can normally be reached on Mon-Fri: 10:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MD

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12/13/05



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